

Quaternary Fault and Fold Database of the United States

As of January 12, 2017, the USGS maintains a limited number of metadata fields that characterize the Quaternary faults and folds of the United States. For the most up-to-date information, please refer to the [interactive fault map](#).

Delamar Valley fault (Class A) No. 1127

Last Review Date: 1999-07-19

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Synopsis

The Delamar Valley fault consists of four en-echelon traces that form the west structural boundary of discontinuous low bedrock hills in the north part of Delamar Valley. It is unclear whether the faults form the east margin of a graben situated between the low hills and the South Pahroc Range to the west or a continuation of the Dry Lake fault [1422] that, in its southernmost part, curves southwest and strikes toward the Delamar Valley fault. If the latter, the Delamar Valley fault would probably form the south structural margin of the basin beneath Dry Lake Valley. Apparently the fault is expressed as west-facing scarps, but the only published information on them is a maximum scarp height of 2.4 m. Based on poorly constrained age estimates of faulted deposits, the last movement on the two northern of the en-echelon traces is shown as Pleistocene (approximately 15 ka-1.8 Ma), and the last movement on the two southern ones is shown as late Tertiary or younger (probably Pleistocene). No data are reported

	<p>allowing reliable estimates of recurrence or slip rate. The faults are not shown on a recent 1:50,000-scale geologic map showing modern fissures and Quaternary faults in the Dry Lake Valley area (Swadley, 1995 #2621), raising serious doubt about the Quaternary history of these faults.</p>
<p>Name comments</p>	<p>Name taken from Schell (1981 #2844) who applied it to a set of 4 short (<5 km) north-northeast-striking, down-to-the-west, en-echelon faults located in the northern part of Delamar Valley.</p> <p>Fault ID: Refers to fault #31 of Schell (1981 #2844).</p>
<p>County(s) and State(s)</p>	<p>LINCOLN COUNTY, NEVADA</p>
<p>Physiographic province(s)</p>	<p>BASIN AND RANGE</p>
<p>Reliability of location</p>	<p>Good Compiled at 1:250,000 scale.</p> <p><i>Comments:</i> Fault traces taken from Schell (1981 #2844) who compiled them at 1:250,000 from 1:25,000-scale aerial photos following field study. These faults are not shown on a 1:250,000 scale unpublished map of Quaternary faults, based on photogeologic studies in the Caliente 1?x2? sheet by J.C. Dohrenwend (published at 1:1,000,000, Dohrenwend and others, 1996 #2846).</p>
<p>Geologic setting</p>	<p>The Delamar Valley fault consists of four en-echelon traces that form the west structural boundary of discontinuous low bedrock hills in the north part of Delamar Valley. The possibility exists that the four short en-echelon faults form the east margin of a graben situated between the low hills and the South Pahroc Range to the west. From south to north, the four en-echelon faults step right towards the center of Delamar Valley where Schell (1981 #2844) shows a fifth trace (a lineament) in the center of Delamar Valley. If the lineament is part of the right-stepping fault, the possibility exists that the Delamar Valley fault represents a southwesterly continuation of the Dry Lake fault [1422] that, in its southernmost part, curves southwest and strikes toward the Delamar Valley fault. In this case, the en-echelon faults of the Delamar Valley fault would probably form the south structural margin of the basin beneath Dry Lake Valley.</p>

Length (km)	17 km.
Average strike	N12°E
Sense of movement	Normal <i>Comments:</i> Schell (1981 #2844) shows the two northern traces as normal faults.
Dip Direction	W <i>Comments:</i> Probably steep
Paleoseismology studies	
Geomorphic expression	Apparently the fault is expressed as west-facing scarps, but the only published information on them is by Schell (1981 #2844) who reports a maximum scarp height of 2.4 m. A possibly related feature in the center of Delamar Valley is shown as a lineament. The faults are not shown cutting widely distributed Quaternary or Quaternary/Tertiary units mapped at 1:50,000 by Swadley (1995 #2621), suggesting that their geomorphic expression is weak at best.
Age of faulted surficial deposits	Schell (1981 #2844, Table A2) shows the age of faulted intermediate-age alluvium as 15 -700 ka (mostly 15 -200 ka) and the age of post-faulting alluvium as 0-15 ka.
Historic earthquake	
Most recent prehistoric deformation	undifferentiated Quaternary (<1.6 Ma) <i>Comments:</i> Age-category assignment if due to poorly constrained age estimates of faulted deposits, the last movement on the two northern of the en-echelon traces is shown as Pleistocene (approx. 15 ka-1.8 Ma), and the last movement on the two south ones is shown as late Tertiary or younger (Schell, 1981 #2844). The faults are not shown on a recent 1:50,000-scale geologic map showing modern fissures and Quaternary faults in the Dry Lake Valley area (Swadley, 1995 #2621), raising serious doubt about the Quaternary history of these faults.
Recurrence	

interval	
Slip-rate category	Less than 0.2 mm/yr <i>Comments:</i> No data that could constrain an estimate are reported. A very low slip rate is inferred from knowledge of slip rates on other faults in the Basin and Range province that are marked by weakly expressed Quaternary scarps.
Date and Compiler(s)	1999 R. Ernest Anderson, U.S. Geological Survey, Emeritus
References	#2846 Dohrenwend, J.C., Schell, B.A., Menges, C.M., Moring, B.C., and McKittrick, M.A., 1996, Reconnaissance photogeologic map of young (Quaternary and late Tertiary) faults in Nevada, <i>in</i> Singer, D.A., ed., Analysis of Nevada's metal-bearing mineral resources: Nevada Bureau of Mines and Geology Open-File Report 96-2, 1 pl., scale 1:1,000,000. #2844 Schell, B.A., 1981, Faults and lineaments in the MX Siting Region, Nevada and Utah, Volume II: Technical report to U.S. Department of [Defense] the Air Force, Norton Air Force Base, California, under Contract FO4704-80-C-0006, November 6, 1981, 29 p., 11 pls., scale 1:250,000. #2621 Swadley, W.C., 1995, Map showing modern fissures and Quaternary faults in the Dry Lake Valley area, Lincoln County, Nevada: U.S. Geological Survey Miscellaneous Investigations Map I-2501, 1 sheet.

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